

REMARKS

Claims 1-18 stand rejected under 35 U.S.C. § 102(e) for anticipation by U.S. Patent No. 6,583,640 to Eriguchi et al. In response to this rejection, claims 1, 5-7, 11-13, 17 and 18 have been amended. After the foregoing amendments, claims 1-18 are pending in the application.

The Eriguchi et al. patent does not disclose, teach or suggest all the limitations of amended independent claims 1, 7 and 13. Specifically, amended independent claims 1, 7 and 13 each generally recite that the permittivity of the dielectric layer overlaying the top surface of a semiconductor wafer is determined as a function of (1) the capacitance of a capacitor formed by a partially spherical conductive surface in contact with the topside of the semiconductor wafer, (2) the measured thickness of the dielectric layer overlaying the semiconducting material of the semiconductor wafer, and (3) the thickness of a gap between the surface of the partially spherical conductive surface and the topside of the semiconductor wafer adjacent where the partially spherical conductive surface contacts the topside of the semiconductor wafer.

In contrast, the Eriguchi et al. patent, at column 26, line 58, discloses the formula $\epsilon = COx \cdot t$ for determining the permittivity of a dielectric film of a semiconductor wafer as a function of the capacitance of the dielectric film (COx) and the thickness (t) of the dielectric film. However, this formula does not account for the thickness of a gap between the surface of a partially spherical conductive surface and the topside of the semiconductor wafer adjacent where the partially spherically conductive surface contacts the topside of the semiconductor wafer. Since, as noted in paragraph [0030] of the present application, a majority of the capacitance of a capacitor comprised of a low permittivity dielectric film overlaying the semiconducting material of a semiconductor wafer is derived from the capacitance of the gap adjacent where the partially spherical conductive surface contacts the topside of the semiconductor wafer, the permittivity of the dielectric film determined in accordance with the present invention is more accurate than the permittivity of the dielectric film determined utilizing the formula disclosed in the Eriguchi et al. patent.

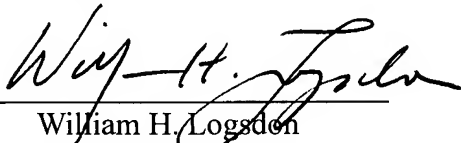
Absent disclosing, teaching or suggesting an invention having all the limitations of independent claims 1, 7 and 13, the Eriguchi et al. patent cannot anticipate or render obvious these claims, or claims 2-6, 8-12 and 14-18 dependent therefrom.

CONCLUSION

Based on the foregoing amendments and remarks, reconsideration of the rejection and allowance of claims 1-18 are requested.

Respectfully submitted,

THE WEBB LAW FIRM

By 

William H. Logsdon
Registration No. 22,123
Attorney for Applicants
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219-1818
Telephone: 412-471-8815
Facsimile: 412-471-4094
E-mail: webblaw@webblaw.com